

Hawaii Epi Bulletin

HAWAII STATE DEPARTMENT OF HEALTH
DISEASE OUTBREAK CONTROL DIVISION

January 2016

Dengue Fever Outbreak on the Big Island



The Hawaii Department of Health (HDOH) is working closely with the Hawaii County Civil Defense to combat an outbreak of locally-acquired dengue fever that has been occurring on the Big Island of Hawaii. HDOH first identified a positive dengue case with no history of travel on October 21, 2015. Since then, as of January 29, 2016, HDOH has identified a total of 242 cases of dengue fever with onsets that range from September 11, 2015 through January 21, 2016, all of which have been located on the Big Island. This is the first outbreak of locally-acquired cases since the 2011 outbreak on Oahu.

Dengue fever is not endemic in Hawaii, however mosquitoes capable of transmitting the disease are present throughout the state; Hawaii routinely identifies approximately 7 imported cases of dengue annually in infected

travelers. Since the beginning of the outbreak on the Big Island, a total of eleven imported dengue fever cases not associated with the outbreak have been identified; additionally, one case of chikungunya has been identified as well.

Dengue fever is a viral illness spread primarily by *Aedes* mosquitoes; it is not commonly spread person-to-person, although in rare cases, it may be transmitted perinatally from infected mothers and possibly through breast milk. It has an incubation period of 3–10 days and its symptoms can include high fever, arthralgias, myalgias, severe headache, retro-orbital eye pain, maculopapular rash, and mild hemorrhagic manifestations. In most cases, it resolves in 2–7 days, although in some it can progress to severe dengue which can be fatal and may present after initial fevers resolve.

There are four major types of dengue virus, dengue virus types 1–4. Dengue virus 1 is the only type that has been identified in cases associated with the current outbreak.

There is no specific treatment available for dengue fever; the treatment provided is supportive. Bed rest and acetaminophen (Tylenol) can be used to treat fever and pain, but the use of aspirin and NSAIDs (ibuprofen, naproxen) are not recommended as they can make bleeding worse. Patients should also be monitored for potential progression to severe dengue. Diagnosis can be made by serological methods that detect IgM and neutralizing antibodies, or if the testing is being performed in the first 5–7 days of illness, polymerase chain reaction (PCR) testing may be used on blood specimens.

In addition to investigating and responding to reported cases associated with the current outbreak on the Big Island, HDOH continues

routine monitoring for cases of imported dengue infection on all islands, and Vector Control continues to perform mosquito site assessments and abatement as needed.

Patients who are suspected or confirmed to have dengue fever should stay indoors and avoid mosquito bites during their first week of illness (especially while febrile). They should also aggressively control and eliminate mosquitos around their homes and places of work by eliminating areas of standing water, as well as ensuring windows and door screens do not have holes or tears in them. To further protect themselves from mosquito bites, they should use mosquito repellent containing 20–30% DEET repellents (go [here](#) for more recommendations on repellent use) and wear light-colored, long-sleeved shirts and long pants.

Dengue fever is an **urgent category notifiable condition** and must be reported by phone. Additionally, HDOH should be involved as soon as possible to obtain PCR testing and/or confirmatory serological testing.

To report a suspect case, contact:

- **On the Big Island:**
808-974-6001 (East Hawaii) or
808-322-4880 (West Hawaii)
- **On other islands:**
DOH Disease Outbreak
Control Division at
808-586-4586.



For current updates on the status of the outbreak and for more information on dengue fever, go [here](#).

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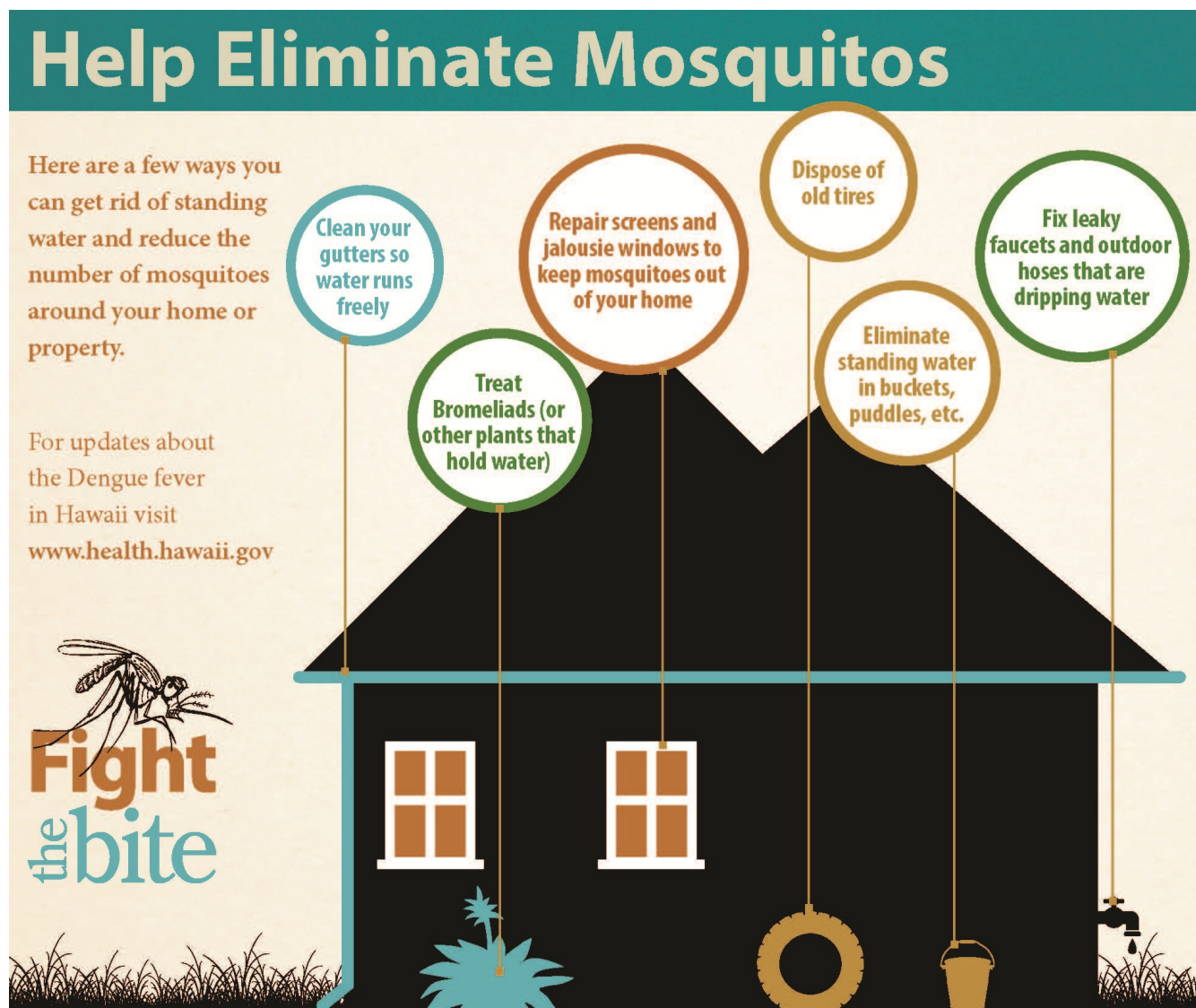
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“Fight the Bite” to Help Eliminate Mosquitos

The most effective way to prevent dengue fever and other mosquito-borne illnesses such as chikungunya or Zika is to protect yourself from mosquitos. Precautions such as wearing light-colored long-sleeved shirts and pants, applying mosquito repellent (more information on repellent choice and proper use can be found [here](#)) and avoiding areas with high mosquito activity during the early morning and late afternoon (when mosquito activity is greatest) are very effective methods of preventing mosquito bites; additionally eliminating potential mosquito breeding areas around your home and work are equally important.

Mosquitos require small amounts of water to lay their eggs and become adults, and by removing standing water sources around properties, mosquitos' ability to breed is greatly reduced. This can be done by draining and dumping standing water from containers like buckets or flower pots, removing old tires which could contain small amounts of water, cleaning gutters so water flows freely, fixing leaky faucets and outdoor hoses that drip water, and treating bromeliads or other plants that hold water. Covering water storage containers (rain barrels, catchment tanks, etc.) can also prevent mosquitos from laying eggs. (More information on controlling mosquito breeding in catchment systems can be found [here](#))

Taking these steps can greatly reduce the number of mosquitos around homes and other properties, and, when performed in conjunction with taking personal precautions as mentioned above, can greatly reduce risk of exposure to mosquitos and mosquito-borne illnesses.



Zika Virus



The Hawaii Department of Health (HDOH) has received laboratory confirmation of congenital Zika virus infection in a microcephalic infant born in Hawaii to a mother who emigrated from Brazil early in her pregnancy. Maternal infection likely

occurred in the first trimester while the family was still living in Brazil; mother and child pose NO risk for Zika virus transmission in Hawaii.

Zika virus is a mosquito-borne flavivirus, primarily transmitted by *Aedes* mosquitoes, the same mosquitoes that also transmit dengue and chikungunya virus. Zika virus is endemic in parts of Africa and Asia, but also has been reported in other regions such as the Pacific Islands and Latin America.

The mosquitoes that transmit Zika virus are present in Hawaii, however, Zika is NOT endemic here, although since 2014, HDOH has identified at least 6 travelers in Hawaii who acquired Zika virus infection in other countries. Clinicians should be alert for Zika infection in persons who develop illness within 2 weeks of returning from [affected areas](#) as well as in pregnant women who report having had compatible illness during their travel. Infected individuals present approximately 3–12 days after being bitten by an infected mosquito with acute onset low-grade fever, rash, arthralgia, and conjunctivitis; myalgia, headache, retro-orbital

pain, and emesis may also occur. Symptoms self-resolve within 2–7 days.

Healthcare providers should report suspect cases to HDOH to assure coordination and routing of specimens for testing, as well as any necessary immediate public health response. Zika virus infection is an **urgent category notifiable condition** and must be reported by phone.

The Centers for Disease Control and Prevention (CDC) has developed interim guidelines for healthcare providers that are caring for pregnant women during an outbreak of Zika virus infection, or infants whose mothers were in an area with Zika virus transmission during pregnancy. The guidelines cover recommendations for screening, testing and management of these patients, and will continue to be updated as more information becomes available. They can be found here:

- [Interim Guidelines for Pregnant Women during a Zika Virus Outbreak](#)
- [Interim Guidelines for the Evaluation and Testing of Infants with Possible Congenital Zika Virus Infection](#)

For more information on Zika virus, go [here](#)

HDOH Hawaii Health Care Provider Disease Reporting Categories

Confidential

Infections/diseases which may carry a social stigma are to be reported with extra precautions to assure patient confidentiality. Reports are to be submitted within three working days of diagnosis.

Urgent

Diseases or conditions that are suspicious or presenting with novel symptoms that may or may not be part of a known disease or disease complex, labeled “urgent” shall be **reported by telephone as soon as a provisional diagnosis is established**.

The telephone report shall be followed by a written report submitted by mail or fax within three days to the Disease Outbreak Control Division, Disease Investigation Branch on Oahu or to the District Health Office on the neighbor islands.

Routine

Diseases labeled “routine” shall be reported by mail, by telephone, or fax to the Disease Outbreak Control division, Disease Investigation Branch on Oahu or to the District Health Office on the neighbor islands.

Routine/Enteric (enteric prevention priority)

Diseases labeled “routine—enteric prevention priority” shall be reported by telephone as soon as a working diagnosis is established if the individual case is a food handler, direct care provider, or pre-school-aged child. Otherwise, routine reports may be submitted.

Outbreak Reports

Any disease shall be reported by telephone when observed to occur clearly in excess of normal expectancy as determined by the healthcare provider or the Director of Health. The telephone report shall be followed by a written report submitted by mail or fax within three days to the Disease Outbreak Control Division, on Oahu or to the District Health Office on the neighbor islands.

HDOH Telephone Numbers

Oahu (Disease Investigation Branch)
(808) 586-4586

Maui District Health Office
(808) 984-8213

Kauai District Health Office
(808) 241-3563

Big Island DHO (Hilo)
(808) 933-0912

Big Island DHO (Kona)
(808) 322-4877

After hours (Oahu)
(808) 566-5049

After hours (Neighbor islands)
(808) 360-2575